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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,624	02/20/2002	Jason L. Fuller	108298636US	1950

25096 7590 02/28/2006

PERKINS COIE LLP  
PATENT-SEA  
P.O. BOX 1247  
SEATTLE, WA 98111-1247

EXAMINER
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ROSSI, JESSICA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b>	<b>Application No.</b> 10/081,624	<b>Applicant(s)</b> FULLER ET AL.	
	<b>Examiner</b> Jessica L. Rossi	<b>Art Unit</b> 1733	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 13 February 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
 b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
 (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
 (b) ☐ They raise the issue of new matter (see NOTE below);  
 (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
 (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
 5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
 6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
 7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
 The status of the claim(s) is (or will be) as follows:  
 Claim(s) allowed: \_\_\_\_\_.  
 Claim(s) objected to: \_\_\_\_\_.  
 Claim(s) rejected: \_\_\_\_\_.  
 Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
 9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
 10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attachment.  
 12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_.  
 13. ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 2, 8-11 and 48-53 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art in view of Lim (US 6378200, of record) and Leonard (US 6071371, of record), as set forth in paragraph 4 of the previous action.

***Response to Arguments***

3. Applicant's arguments filed 2/13/06 have been fully considered but they are not persuasive.
4. In the last paragraph on p. 7 and continuing over onto p. 8 of the remarks, Applicant argues that the Admitted Prior Art explicitly teaches away from stacking the first stacked die onto the base die before securing the base die to the substrate in a heating cycle because the Admitted Prior Art teaches that it is generally necessary to heat the subassembly of the base die and the substrate before moving or otherwise handling the subassembly to avoid displacing the base die while further teaching that it was counterintuitive to attach the first stacked die to the base die before securing the base die to the substrate (Applicant cites section [0030] of the present specification).

The examiner respectfully points out that section [0030] of the present specification is part of Applicant's detailed description of the present invention and NOT the background/admitted prior art, as implied by Applicant in his remarks. The background section of the present specification includes sections [0002-0009] and nowhere in these sections does it

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ever state that it is generally necessary to heat the subassembly of the base die and the substrate before moving or otherwise handling the subassembly to avoid displacing the base die and/or that it is counterintuitive to attach the first stacked die to the base die before securing the base die to the substrate – such is merely Applicant's own interpretation of the Admitted Prior Art.

5. On p. 8 of the remarks, Applicant argues that Lim and Leonard provide no motivation to modify the Admitted Prior Art so that the wire bond chip of the Admitted Prior Art is stacked onto the flip chip before securing the flip chip to the substrate in a heating cycle.

The examiner invites Applicant to reread the rejection set forth in the previous action where motivation was provided to stack the wire bond chip of the Admitted Prior Art onto the flip chip before securing the flip chip to the substrate in a heating cycle. To reiterate, the secondary reference to Lim teaches bonding a plurality of chips to a substrate using a single heating step as opposed to separate heating steps for the attachment of each chip; more importantly, the secondary reference to Leonard teaches bonding two dies to a substrate, one via solder and the other via curable adhesive, where it is preferable to perform one heating step to both reflow the solder and cure the adhesive rather than using separate heating steps for the reflowing and curing, because the additional heating step has detrimental effects and is inefficient (column 1, line 40 – column 2, line 40).

Therefore, since the Admitted Prior Art teaches using heat to reflow solder to attach the flip chip to the substrate and using heat to cure an adhesive to attach the wire bond chip to the backside of the flip chip, it would have been obvious to one of ordinary skill in the art to perform one heating step to both reflow the solder and cure the adhesive in order to attach the flip chip to the substrate and attach the wire bond chip to the flip chip, because a single heating step for both

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reflowing solder and curing adhesive to simultaneously attach chips/dies to a board/substrate is known in the art, as taught Lim and Leonard, where such would increase the efficiency and productivity of the process by eliminating the need for multiple heating steps.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**JESSICA ROSSI  
PRIMARY EXAMINER**

